

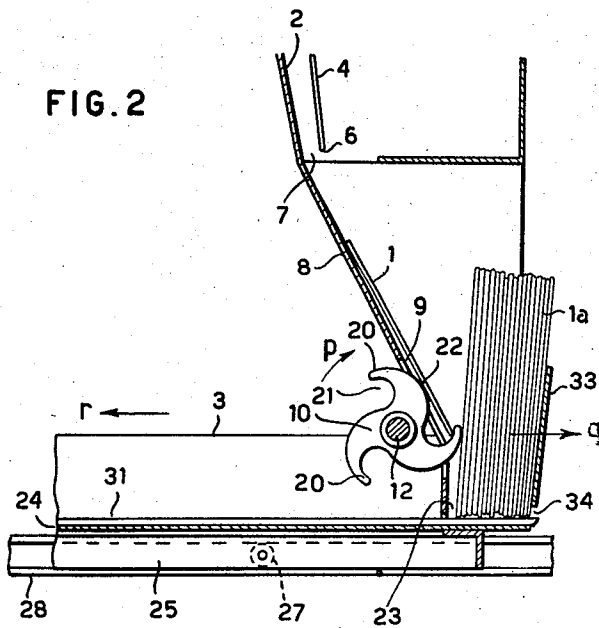
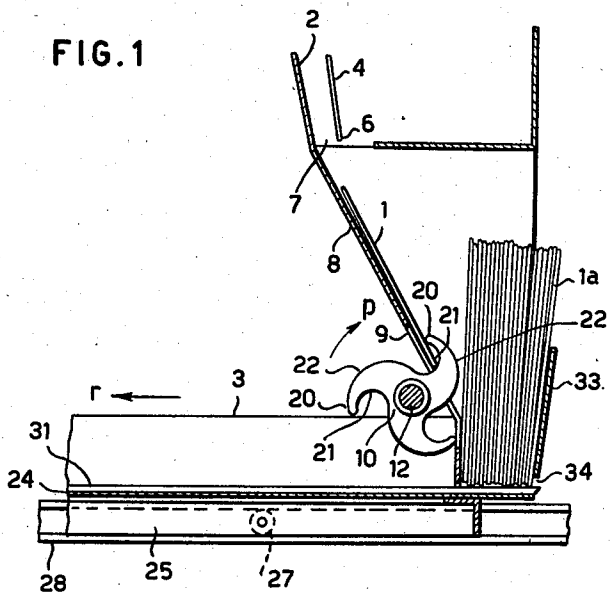
July 22, 1958

F. VAN MARLE
MAIL STACKING EQUIPMENT

2,844,373

Filed April 5, 1955

4 Sheets-Sheet 1



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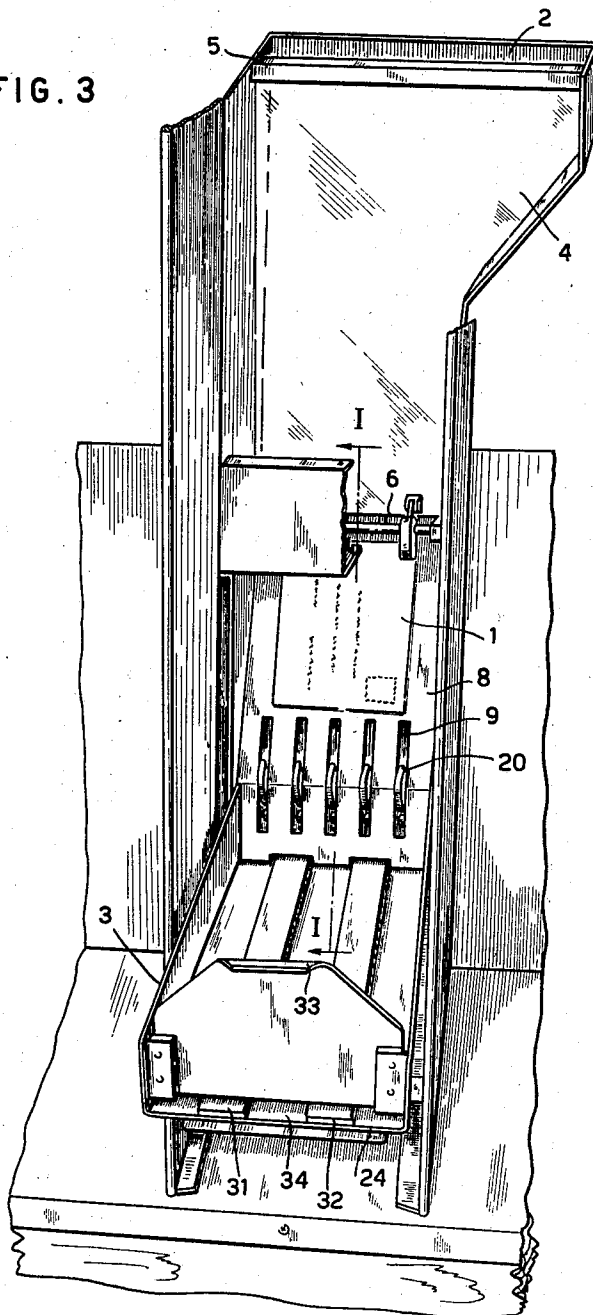
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FIG. 3



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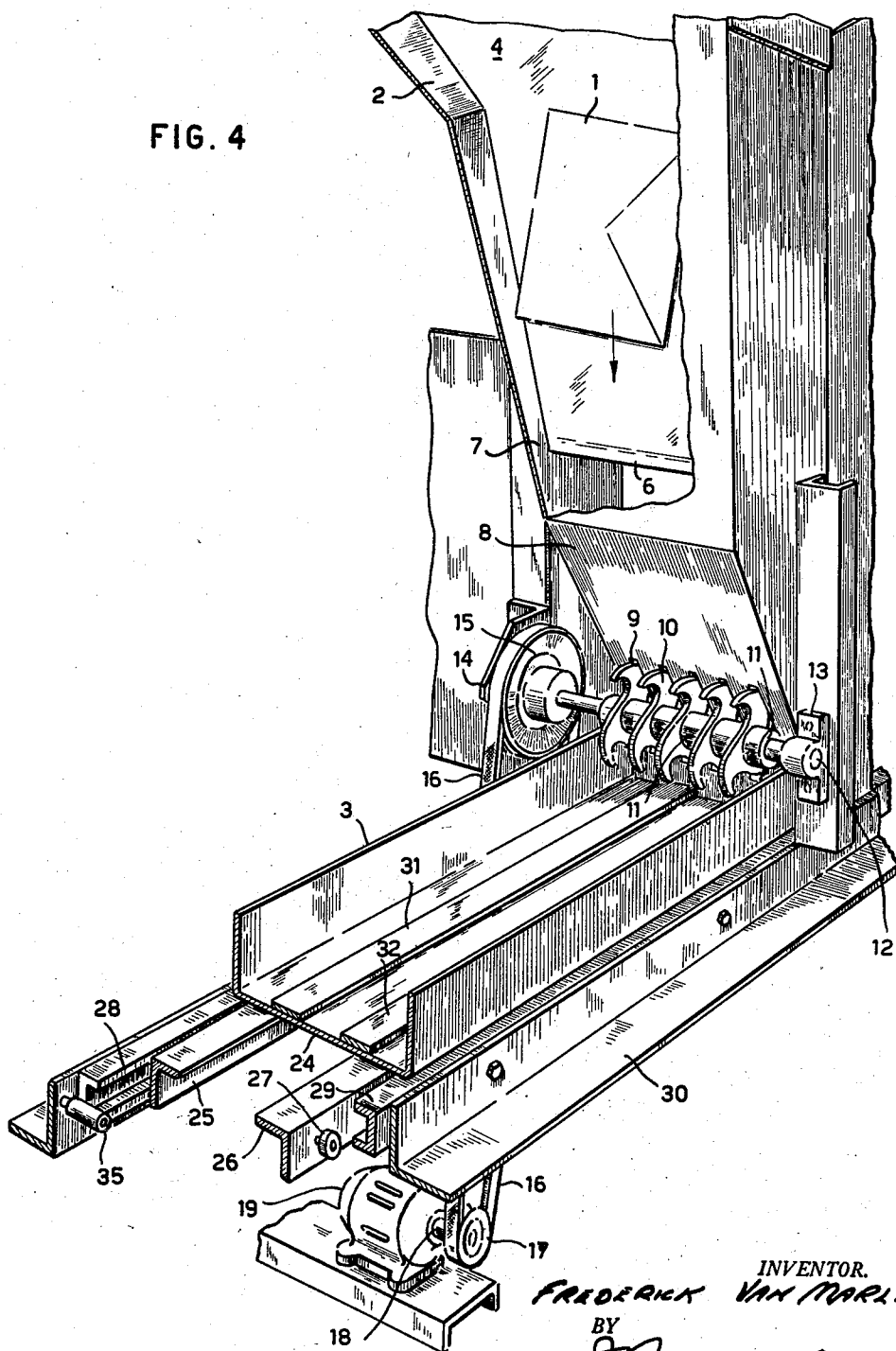
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FIG. 4



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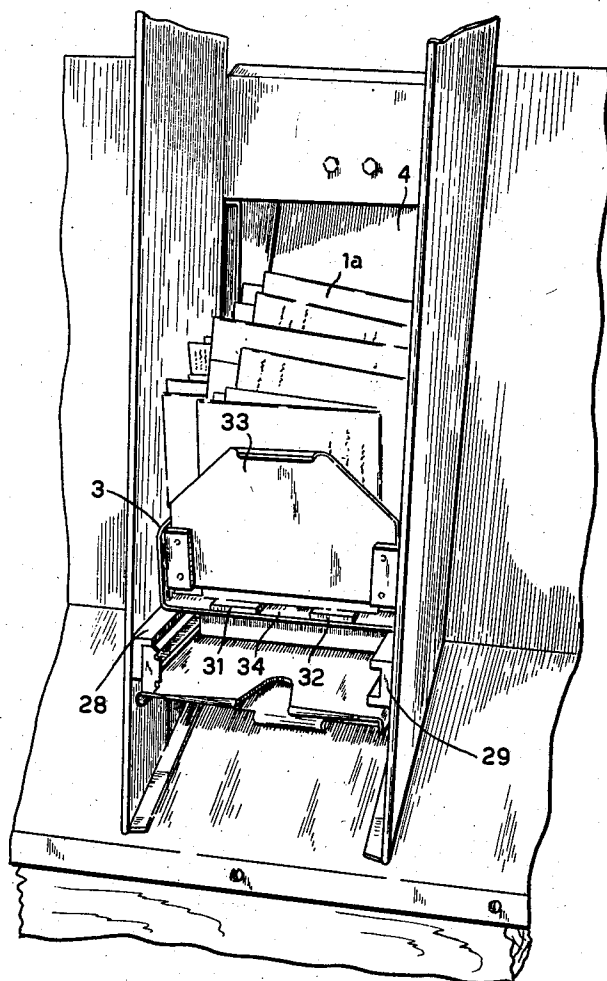
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FIG. 5



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MAIL STACKING EQUIPMENT

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4 Claims. (Cl. 271—87)

This invention relates generally to mail sorting equipment in which letters are sorted mechanically into a series of compartments or receptacles and has for its object to provide means for stacking the mail pieces, as received, in an orderly manner pending the arrival of a comparatively large number of pieces in a single receptacle whereupon they may be removed manually in a stack.

More particularly, it is the object of this invention to provide a receptacle positioned to receive mail pieces from a sorting machine chute, together with means for causing the letters to form an orderly stack, the receptacle being automatically movable with respect to the stacking means in response to the increasing size of the stack.

Specifically, it is the object of the invention to provide a chute through which mail pieces such as letters, postcards and the like are directed, and which has a receptacle positioned therebelow on an inclined track. Associated with the chute and the receptacle are stacking means which cause an edge of each mail piece, as received, to find its way to the bottom of the receptacle and to position itself vertically behind the preceding mail piece. The front wall of the receptacle automatically moves forward as the stacking means makes room for each on-coming mail piece to position itself behind a preceding mail piece, thus automatically filling the receptacle with mail pieces in vertical position transversely of the receptacle.

Other objects and advantages will become hereinafter more fully apparent as reference is had to the accompanying drawings in which my invention is illustrated and in which

Figures 1 and 2 are vertical partial sections both taken along the line 1—1 of Figure 3, showing the stacker and a portion of the chute and receptacle, the position of the stacker as illustrated in Figure 2 being in advance of the position of the stacker as illustrated in Figure 1,

Figure 3 is a front vertical perspective view of the chute, stacker and receptacle,

Figure 4 is a rear vertical perspective of the equipment of Figure 3, and

Figure 5 is a view similar to Figure 3 with the receptacle containing mail pieces.

More particularly, 1 indicates a mail piece such as a letter being delivered by a chute 2 to a receptacle 3. The chute 2 may be one of a series of chutes and the receptacle 3 may be one of a series of receptacles some of which may have stationary bottoms arranged above the receptacle 3, all as a part of a sorting machine. The receptacle 3 is useful where one particular classification of a sorting machine ordinarily receives or includes a much larger number of mail pieces than other classifications.

It is therefore the desiderata that the receptacle 3 receive the mail pieces 1 and stack them in an orderly stack 1a (Figures 1 and 2) so that they may be manually removed at intervals and tied up in bundles, or, perhaps, resorted.

The chute 2 has one wall 4 which is hung from a sup-

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port 5, the lower edge 6 thereof forming a narrow gap 7 with rear wall of the chute. The mail pieces 1 must fall against an inclined lower wall 8 of the chute which extends down into the receptacle. This wall 8 is fixed with respect to the receptacle and is provided with slots 9 through which the fingers 20 of finger discs 10 extend.

The finger discs 10 are mounted on a shaft 12 and separated by the spaces 11. The shaft 12 is mounted at its ends in the bearing brackets 13 and 14 alongside the chute 2, and equipped with a pulley 15. A belt 16 rides the pulley 15 and a second pulley 17 mounted on the shaft 18 of a driving motor 19. The motor rotates the shaft 12 in a direction indicated by the arrow *p* in Figures 1 and 2.

The receptacle 3 is equipped with angles 25 and 26 which are welded or bolted to the bottom thereof. Rollers 27 are mounted on the depending portions of the angle pieces 25 and 26 for engagement with U-shaped runners 28 and 29 connected to the main frame 30 of the sorting machine. The rails 28 and 29 are inclined in such way that the receptacle 3 has the tendency to move in the direction of the arrow *r* (Figures 1 and 2). The receptacle 3 has ribs 31 and 32 longitudinally thereof upon which the mail pieces come to rest, the mail pieces thus being elevated from the bottom of the receptacle for easier removal. The front wall 33 of the receptacle may be slotted at its bottom edge to leave an opening 34 for removal or ejection of mail pieces which fall flat.

A stop 35 on the frame 30 is provided to prevent the front wall 33 of the receptacle 3 from being struck by the fingers 20 of the finger discs 10 when there are no mail pieces in the receptacle.

The operation will now be described with particular reference to Figures 1 and 2. A mail piece 1 is being delivered by the chute into the receptacle 3 and into the concave portion 21 of a finger 20. The finger disc 10 which carries the finger 20 is rotating clockwise so that the convex portion 22 thereof presses against the mail pieces 1a already in the receptacle 3, causing the receptacle to move forwardly against the inclination of its tracks 28, 29, by a distance 23 sufficient to allow the on-coming mail piece to take its place between the preceding pieces 1a and the bottom of the chute wall 8. The receptacle 3 thus automatically moves forwardly in the direction of the arrow *q* as the on-coming pieces increase in number.

Modifications will suggest themselves to those skilled in the art. For instance, if the mail pieces 1 are delivered through the chute 2 with sufficient force or at sufficiently high speed it will be obvious that the finger discs 10 may be omitted because the wall 8, by its position will deliver each mail piece immediately in rear of the last preceding mail piece and that since the wall 8 is fixed, the receptacle 3 will automatically move forward as succeeding pieces find their way into position to become a part of the stack 1a.

I therefore desire to be protected as defined by the scope of the appended claims.

What I claim is:

1. Mail handling equipment comprising a chute, a receptacle having rollers on the bottom thereof and a front wall, a track for said rollers inclined toward said chute, the rear wall of said chute extending into said receptacle, means delivering successive mail pieces to the floor of said receptacle with their surface parallel to the front wall thereof, said means automatically moving said receptacle against the inclination of said track as successive mail pieces are delivered to the bottom thereof, said receptacle being removable at will from said tracks.

2. Mail handling equipment comprising a chute through

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which pieces of mail are delivered, a receptacle for receiving the pieces from said chute, said chute having one wall thereof extending into said receptacle, said receptacle being movable with respect to said chute, said chute by its position with respect to said receptacle delivering each mail piece, vertically positioned, into said receptacle in rear of each preceding mail piece, said receptacle being mounted on anti-friction rollers riding a slightly inclined track, said track being inclined in a direction for gravity movement of said receptacle toward said chute, said receptacle automatically moving forward against the inclination of said track by a distance substantially equal to the thickness of each mail piece, as each said piece takes its place in rear of a preceding mail piece, said receptacle being automatically returned to its starting position by gravity upon removal of the stacked pieces therefrom.

3. Mail handling equipment comprising a chute for vertically falling mail pieces, a receptacle resting on tracks inclined toward said chute and positioned to receive the mail pieces from said chute, a rotor near the end of said chute having finger discs residing within said receptacle, said chute delivering mail pieces into said receptacle and against the fingers of said disc, said fingers being convex at their ends and concave interiorly thereof to receive successive mail pieces, said fingers rotating in a direction to press the mail pieces previously received by said receptacle with their convex ends thereby moving said receptacle against its incline, said fingers by their rotation progressively moving out of the path of the mail pieces received while guiding the last named mail pieces on the floor of said receptacle in rear of the preceding mail pieces.

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4. Mail handling equipment comprising a chute for guiding vertically falling mail pieces, a receptacle equipped with rollers resting on tracks inclined toward said chute for receiving the mail pieces from said chute, said chute having one wall extending into said receptacle, a rotor in rear of said wall having finger discs mounted along the length thereof, a motor constantly driving said rotor, the fingers of said discs each progressively projecting through slots in said wall during rotation thereof, said fingers being rounded at their outer ends and concave interiorly thereof, said fingers receiving the mail pieces delivered by said chute on their concave surfaces and guiding said pieces to the bottom of said receptacle by their rotation, said fingers while guiding an on-coming mail piece also pressing against the preceding mail pieces in said receptacle with their convex ends thereby causing said receptacle to move forward against its inclination through a distance sufficient to receive the oncoming mail piece, said receptacle being automatically returned to its starting position by gravity upon removal of the stacked pieces therefrom.

References Cited in the file of this patent

UNITED STATES PATENTS

Re. 13,469	Barr	Oct. 1, 1912
1,035,716	Lynch	Aug. 13, 1912
1,238,207	Sigafoos	Aug. 28, 1917
1,269,673	Armstrong	June 18, 1918
1,603,294	Riser	Oct. 19, 1926
2,251,221	Cleven	July 29, 1941
2,687,301	Sooy	Aug. 24, 1954